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The zooplankton from some lakes and ponds in North Albania with different size and altitude

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The data about the zooplankton in the fresh waters of Albania are not many. The greater part of the investigations has been done on the Scutari lake because of its size - 370 km^2. and the transborder attitude. The investigations on the crustaceans of the Skutari lake particularly started in the beginning of the century (BREM & ZADERBAUER, 1905; VERESHCHAGIN, 1912; GESSENER, 1934; NEDELKOVIC, 1959; PETKOVSKI, 1961). There are no data about the zooplankton of the prevailing part of the numerous small lakes and ponds in the country. There are no data about the rotifers from the Skutari lake either. Eight species of Cyclopoids from the Albanian ground waters were reported by PANDOURSKI (1977).

In July 1995 during a speleological expedition of the Bulgarian Federation of Speleology, zooplankton samples from eight lakes and ponds different in size and hydrological regime, were collected (Fig. 1). The sampling was carried out by an „Apstein" net with 40mkm measure. In the littoral zone of the lakes a hand net was used for the collection of littoral animals.

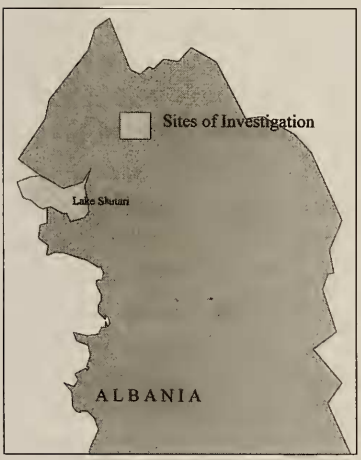

Fig.1. Map of Albania and the investigated region - marked in the rectangle

Descriptions of the investigated biotops and the methods used for taking samples:

1, 2 Samples - Scutari Lake - geographic position 42.4 N, 19.3E - Surface area 370km^2. 16 m a.s.l., SE coast, first sample taken by a plankton net, second sample taken by a hand net in the littoral zone. Sampling date - 23.06.1995

3 Sample - Artificial lake for agricultural irrigation in the Vrithi village 350 m.a.s.l. - 15.06.1995

4 Sample - Artificial lake for watering above Vrithi village. 1200 m.a.s.l. Sampling date - 15.06.1995

5 Sample - Artificial lake for watering below Vrithi village. Sampling date - 16.06.1995

Table 1

The invertebrate taxa found in the investigated lakes and ponds in the North Albania

Legend: 1, 2 - Scutari lake; 3 - Artificial lake for agricultural irrigation in the Vrithi village; 4 - Artificial lake for watering above Vriti village; 5 - Artificial lake for watering below Vrithi village; 6, 7 - Artificial lake for watering at the Stani I Drugomiri place; 8, 9 - Source at the Proni e Shkurtit place; 10 - Little well at the Stani I Drugomiri place

Taxa	1	2	3	4	5	6	7	8	9	10
Rotatoria										
Lecane (M.) arcuata (Bryce,1891)		+								
Polyarthra remata Skorikov, 1896	+		+							
Polyarthra sp.	+									
Asplanchna sieboldi (Leidig, 1854)			+							
Asplanchna sp.						+				
Synchaeta sp.						+	+			
Brachionus urceus (L., 1758)						+				
B. urceus sericus Rouselet, 1907						+				
Keratella cochlearis (Gosse, 1851)	+									
K. tecta (Gosse, 1851)	+									
K. quadrata frenzeli (Eckstein, 1895)	+									
Euchlanis dilatata Ehrenberg, 1832	+	+								
Kellicottia longispina (Kellicott, 1879)	+									
Testudinella sp.						+				
Cladocera										
Sida cristalina (O.F. Muller, 1776)	+	+								
Daphnia similis Claus, 1876						+				
D. pulex pulex (De Geer, 1835)			+		+	+				
D. galeata Richard, 1896						+				
Daphnia sp. juv.							+			
D. gr. *pulex* - ephipia			+		+	+				
D. gr. *longispina* - ephipia						+	+			
Moina brachiata (Jurine, 1820)			+		+					
Bosmina longirostris (O.F. Muller,1776)	+		+	+						
Acroperus harpae (Baird, 1835)		+								
Alona gutata Sars, 1862		+								
A. rectangula Sars, 1862		+								
Chydorus sphaericus (Muller, !785)		+								
Copepoda										
Eudiaptomus sp. juv.	+									
Eucyclops serrulatus (Fischer, 1853)		+		+						
E. serrulatus proximus (Fischer, 1853)						+	+			
Eucyclops sp.		+								
Trophocyclops prasinus (Fischer, 1860)			+							
Cyclops vicinus Uljanin, 1875	+									
Acanthocyclops vernalis (Fischer, 1860)				+	+	+				
Copepodites	+	+	+	+						

Taxa	1	2	3	4	5	6	7	8	9	10
Nauplii	+	+		+		+				
Others										
Gammarus sp.										+
Asellidae gen. sp.									+	
Coleoptera *Hydrous* sp.							+			
Fam. Chironomidae larvae	+	+							+	
Salamandra larvae									+	
Planaria gen. sp.								+		

6, 7 Samples - Artificial lake for watering, above Rasma village at the Stani I Drugomiri place - 1590 m. a.s.l. - two samples. First taken by a plankton net, second taken by a hand net. Sampling date - 20.06.1995

8, 9 Samples - Source at the Proni e Shkurtit place 1460 m. a.s.l. - two samples, first by plankton net, second by hand net. Sampling date - 21.06.1995.

10 Sample - Little well at the Stani I Drugomiri place. 1590 m.a.s.l. Sampling date - 23.06.1995

All the investigated artificial ponds have an area between 100 and 1000 m^2.

Of all of the investigated waters 14 taxa Rotatoria, 11 taxa Cladocera and 6 taxa Copepoda were established (Table 1). The Cladocera *Daphnia galeata* found in the artificial lake N 6 was not reported for Albania before. PETKOVSKI (1961) reported *Daphnia cuculata* kahlbergensis from the Skutari lake. This species belongs to the same species group without seta comb of longer setae at the base of the postabdominal claws, and the high heads.

Two of the discovered Cyclopoida species from the samples are new for the Albanian fauna - *Tropocyclops prasinus* and *Acanthocyclops vernalis*.

Because of the differences in the hydrological regime of the investigated waters the established species have various ecological characteristics. Some of them are typically pelagic forms like Rotifers *Euchlanis dilatata*, *Keratella cochlearis*, *K. quadrata*, Cladocerans *Sida cristalina*, *Bosmina longirostris* and Cyclopoida species - *Cyclops vicinus* found in the Skutari lake. Others are connected with small water bodies and with the bottom substrate. Such species are rotifer *Lecane (M.) arcuata*, cladocerans *Chydorus sphaericus*, *Alona gutata*, *Alona rectangula*, *Daphnia pulex pulex* and the Cyclopoid *Tropocyclops prasinus*. The greatest variety of species composition was established in the zooplankton from the Skutari lake - 19 species. The poorest samples were from a little well at Stani I Drugomiri place - 1590 m.a.s.l. containing only *Gammarus sp.* The rest of the samples contain between three and ten species.

Most of the established species have a cosmopolitic distribution. Only some of the species are somewhat stenobiontic as for example *Tropocyclops prasinus* found in the artificial lake in the Rasma village. This species is characteristic for the warm waters in the small lakes and ponds, during the summer season. It is monocyclic.

Three mature female individuals found in the lake N 3 are between 750 and 820 mkm long. The latteral parts of the fifth toracal segment are covered by a lot of setae. The furcal rami are short and slightly divergent in their distal parts. They are approximately three times longer as broad. Of the middle appical seta of the furca, the inner one is five times longer than the furcal rami .. The latteral furcal setae are well developed. They are attached to the back 1/3 part of the furcal rami. The antenulae are comparetively short, twelve membered, with dented hyaline membrans of the distal joint. They reach up to the third cephalotoracal segment. P5 is - one somited with three appendages a thin spine in the middle and two setae. The inner one appically situated and the external one subapically situated.

Another species is *Acanthocyclops vernalis* - characteristic for higher altitudes. It was found in the higher artificial ponds situated above Rasma village. In each of the samples in which this species was founded, the number of the individuals was comperatively large. In Bulgaria this species is common for the high mountain glacial lakes in Rila and Pirin mountains over 2095 m.a.s.l. (NAIDENOW, 1975).

The low temperature of the water and the unsustainable hydrological regime are the two main factors responsible for the poor fauna found in the spring and well at the Stani I Drugomiri place. Only four benthic taxa were found in them. The highest situated ponds and sources are much poorer in animals than the lower situated Skutari lake.

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Зоопланктонът от някои водни басейни в Северна Албания с различна големина и надморска височина

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(Р е з ю м е)

Изследвани са зоопланктонни организми от осем различни по размер и хидрологичен режим водни басейна в Северна Албания. Обектите за изследване са разположени от 16 м н.в. до 1560 м н.в. От изследваните обекти са установени 14 - таксона Rotatoria, 11- таксона Cladocera, 6 таксона Cyclopoida (табл. 1). От намерените циклопоиди два вида не са съобщавани за Албания - *Tropocyclops prasinus* и *Acanthocyclops vernalis*, Кладоцерата *Daphnia galeata*, намерена в изкуствено езеро в, също не е съобщавана за Албания. Най-богати са пробите от Шкодренското езеро, а най-малко видове, при това само бентосни, са установени в пробите от кладенчето в местността Стани и Другомири - 1560 м н.в.